


Amendments to the Claims

Claim 1 (currently amended) An optical analysis chamber, comprising:

An optically transmissive elongate tubular body having an elongate tubular body wall including an interior surface and an exterior surface, said interior surface of said body wall defining an elongate sample passageway for containing a sample material;



Wherein said body wall further includes a first optically transmissive window, said window having a ~~curved~~ substantially convex exterior surface portion, through which optical radiation passes, said window having a non-uniform thickness about the sample passageway selected so as to optimize optical coupling therewith for analyzing said sample material.

Claim 2 (original): The optical analysis chamber of claim 1, wherein said first window further comprises a substantially curved interior surface portion.

Claim 3 (original): The optical analysis chamber of claim 2, wherein said tubular body is an electrophoresis capillary.

Claim 4 (original): The optical analysis chamber of claim 2, wherein said exterior surface of said first window defines an optical interrogation beam transmission surface having a substantially semi-cylindrical shape.

Claim 5 (original): The optical analysis chamber of claim 2, wherein the longitudinal axis of said sample passageway is offset from the longitudinal axis of said tubular body.

Claim 6 (original): The optical analysis chamber of claim 2, wherein said exterior surface of said window defines an optical interrogation beam transmission surface having a substantially acylindrical shape.

Claim 7 (original): The optical analysis chamber of claim 2, wherein incident optical radiation passing through said window is directed through said sample passageway and is brought substantially to focus at a location near said exterior surface of said tubular body beyond said sample passageway.

Claim 8 (original): The optical analysis chamber of claim 2, wherein incident optical radiation passing through said window is directed through said sample passageway and is brought substantially to focus at a location near said interior surface of said tubular body beyond the center of said passageway.

Claim 9 (original): The optical analysis chamber of claim 2, wherein incident optical radiation passing through said window is directed through said sample passageway and is brought substantially to focus at a location within said sample passageway.

Claim 10 (original): The optical analysis chamber of claim 2, wherein incident optical radiation passing through said window is directed through said sample passageway and is

brought substantially to focus at a location near said interior surface of said tubular body before the center of said passageway.

Claim 11 (original): The optical analysis chamber of claim 2, wherein incident optical radiation passing through said window is directed to substantially focus about the center of said passageway.

Claim 12 (original): The optical analysis chamber of claim 2, wherein a portion of said exterior surface includes a reflective coating so as to redirect optical radiation towards said sample passageway.

Claim 13 (original): The optical analysis chamber of claim 2, wherein a portion of said exterior surface of said tubular body is formed to be substantially curved.

Claim 14 (original): The optical analysis chamber of claim 2, wherein said exterior surface of said tubular body further includes at least one facet for cooperatively aligning adjacent said optical analysis chambers within an array of said optical analysis chambers.

Claim 15 (original): The optical analysis chamber of claim 2, wherein said exterior surface of said tubular body further includes a pair of opposed planar facets for cooperatively aligning adjacent said optical analysis chambers within an array of said optical analysis chambers.

Claim 16 (original): The optical analysis chamber of claim 1, wherein said body wall further includes a portion functioning as an second window selected to optimize optical coupling of information-carrying radiation out of said passageway


Claim 17 (original): The optical analysis chamber of claim 16, wherein said first window is distinct from said second window.

Claim 18 (original): The optical analysis chamber of claim 16, wherein said first window is substantially orthogonally oriented with said second window.

Claim 19 (original): The optical analysis chamber of claim 2, wherein the cross-section of said tubular body is bilaterally symmetric.

Claim 20 (original): The optical analysis chamber of claim 2, wherein the cross-section of the external surface of said tubular body has no axis of symmetry.

Claim 21 (original): The optical analysis chamber of claim 17, wherein said tubular body wall further comprises a third window selected to optimally couple radiation therethrough.

 Claim 22 (currently amended): A method of forming an optical analysis chamber comprising the step of:

curved
shaping an elongate tubular body wall having a ~~curved~~ substantially convex

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exterior surface and a substantially curved interior surface defining a fluid sample passageway such that said exterior and interior surfaces cooperate to optimize optical coupling efficiency for radiation directed through said body wall.

Claim 23 (original): The method of claim 22, further comprising the step of shaping said curved exterior surface and said substantially curved interior surface such that said exterior and interior surfaces cooperate to maximize optical coupling efficiency for radiation directed through said body wall from said passageway.

Claim 24 (original): The method of claim 23, further comprising the step of shaping said exterior surface of said body wall so as to define a first optical window through which an optical interrogation beam passes, said window being rotationally asymmetric about the longitudinal axis of said passageway.

Claim 25 (original): The method of claim 24, further comprising the steps of providing a preform of said tubular body; and drawing said preform to reduced dimensions.

Claim 26 (original): The method of claim 25, wherein said step of providing a preform further comprises the step of providing an elongate tubular body wall having a substantially cylindrical exterior surface and a substantially cylindrical interior surface.

Claim 27 (original): The method of claim 25, further comprising the step of removing material from said preform.

Claim 28 (original): The method of claim 26, further comprising the step of adding additional optically-transmissive material to said preform.

Claim 29 (original): The method of claim 25, further comprising the step of forming a portion of said exterior surface of said body wall to be substantially planar to assist in alignment with an optical source.

Claim 30 (original): The method of claim 26, further comprising the step of forming a portion of said exterior surface of said body wall to be substantially planar to assist in alignment relative to an optical radiation collector.

Claim 31 (original): The method of claim 30, further including the step of forming said exterior surface of said first window so as to direct optical radiation to converge upon a location near the center of said sample passageway.

Claim 32 (original): The method of claim 26, further including the step of forming said exterior surface of said window to be acylindrical.

Claim 33 (original): The method of claim 22, further including the step of positioning said tubular body within a holder providing facets for cooperatively engaging said

exterior surface of said tubular body so as to properly align said tubular body within said holder.

Claim 34 (original): The method of claim 24, further including the step of forming a reflective surface opposite said fluid passageway from said first window to redirect radiation towards said sample passageway.

Claim 35 (original): The method of claim 31, wherein said step of forming a reflective surface further includes forming a substantially planar reflective surface.

Claim 36 (original): The method of claim 31, wherein said step of forming a reflective surface further includes forming a substantially curved reflective surface.

Claim 37 (original): The optical analysis chamber of claim 22, wherein said tubular body wall is formed from a material having a refractive index in the range from about 1.4 to about 2.0.

Claim 38 (original): The method of claim 34, further including the step of forming portion of the tubular body wall so that signal reflected by said reflective surface appears to emerge from the same depth within the capillary.